

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference HARD1.081VPC		FOR FURTHER ACTION		see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2004/019980	International filing date (day/month/year) 21/06/2004	(Earliest) Priority Date (day/month/year) 20/06/2003		
Applicant JAMES HARDIE INTERNATIONAL FINANCE N.V.				

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 9 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).



b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☒ Certain claims were found unsearchable (See Box II).

3. ☒ Unity of invention is lacking (see Box III).

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. _____



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.

- b. ☒ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/019980**Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1-16, 22-25 (in part)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-16, 22-25

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA 210

Continuation of Box II.2

Claims Nos.: 1-16,22-25 (in part)

Present claims 1-16 and 22-25 relate to a product and method defined by reference to a desirable characteristic or property, namely

- 1) ratio of Modulus of rupture (MOR) to modulus of elasticity (MOE)
- 2) density
- 3) nailability
- 4) resistance to stress induced cracking

The claims cover all products and methods having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products and methods. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product and method by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible.

Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to products (and methods for preparing said products) comprising a hydraulic binder, aggregate, lightweight aggregate (as specified in the description at page 6; paragraph [0021], fibres and a waterproofing agent.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-16,22-25

cementitious composition comprising a hydraulic binder, fibres, aggregate, lightweight aggregate and a waterproofing agent as well as roofing article derived from said composition and method for preparing said article

2. claims: 17-21,26

roofing article comprising two roofing tiles connected to each other

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C04B28/02 E04D1/04 E04D1/16 E04D1/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C04B E04D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/32830 A (HARDIE JAMES RES PTY LTD ; LUO CAIDIAN (US); MERKLEY DONALD J. (US)) 25 April 2002 (2002-04-25) cited in the application the whole document	1-3, 5-10, 22-24
Y	-----	4, 11-16, 25
X	WO 02/28795 A (HARDIE JAMES RES PTY LTD ; LUO CAIDIAN (US); MERKLEY DONALD J. (US)) 11 April 2002 (2002-04-11) the whole document	1-3, 5-10, 22-24
X	WO 02/28796 A (HARDIE JAMES RES PTY LTD ; LUO CAIDIAN (US); MERKLEY DONALD J. (US)) 11 April 2002 (2002-04-11) the whole document	1-3, 5-10, 22-24
	----- -/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

15 September 2004

Date of mailing of the international search report

12.01.04

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel: (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Gattinger, I

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 2 148 871 A (PILKINGTON BROTHERS PLC) 5 June 1985 (1985-06-05) the whole document	4
Y	EP 0 173 553 A (MARLEY TILE AG ; MARLEY ROOF TILE (GB)) 5 March 1986 (1986-03-05) page 1, lines 28-36	11
Y	US 2003/054123 A1 (BLACK ANDREW J ET AL) 20 March 2003 (2003-03-20) cited in the application paragraphs [0011], [0013], [0018], [0022], [0025]	12-16,25
A	EP 0 347 092 A (REDLAND ROOF TILES LTD) 20 December 1989 (1989-12-20) the whole document	

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0232830	A	25-04-2002	AU 1181602 A	29-04-2002
			AU 9296601 A	15-04-2002
			BR 0114443 A	01-07-2003
			BR 0114710 A	18-11-2003
			CA 2424377 A1	11-04-2002
			CA 2424744 A1	25-04-2002
			CN 1473138 T	04-02-2004
			CZ 20030959 A3	17-09-2003
			CZ 20031212 A3	17-03-2004
			EP 1330420 A2	30-07-2003
			EP 1334076 A2	13-08-2003
			JP 2004527664 T	09-09-2004
			JP 2004511421 T	15-04-2004
			MX PA03002704 A	24-06-2003
			PL 361025 A1	20-09-2004
			WO 0228795 A2	11-04-2002
			WO 0232830 A2	25-04-2002
			US 2004145078 A1	29-07-2004
			US 2002059886 A1	23-05-2002
			US 2002069791 A1	13-06-2002
<hr/>				
WO 0228795	A	11-04-2002	AU 9505501 A	15-04-2002
			BR 0114423 A	20-01-2004
			BR 0114443 A	01-07-2003
			CA 2424377 A1	11-04-2002
			CA 2424795 A1	11-04-2002
			CN 1473138 T	04-02-2004
			CZ 20030958 A3	17-09-2003
			CZ 20030959 A3	17-09-2003
			EP 1330420 A2	30-07-2003
			EP 1330421 A2	30-07-2003
			JP 2004527664 T	09-09-2004
			JP 2004510672 T	08-04-2004
			MX PA03002704 A	24-06-2003
			MX PA03002711 A	28-07-2003
			WO 0228795 A2	11-04-2002
			WO 0228796 A2	11-04-2002
			US 2004139891 A1	22-07-2004
			US 2004145078 A1	29-07-2004
			US 2002059886 A1	23-05-2002
			US 2002088584 A1	11-07-2002
AU 9296601 A	15-04-2002			
AU 1181602 A	29-04-2002			
BR 0114710 A	18-11-2003			
CA 2424744 A1	25-04-2002			
CZ 20031212 A3	17-03-2004			
EP 1334076 A2	13-08-2003			
JP 2004511421 T	15-04-2004			
PL 361025 A1	20-09-2004			
WO 0232830 A2	25-04-2002			
US 2002069791 A1	13-06-2002			
<hr/>				
WO 0228796	A	11-04-2002	AU 9505501 A	15-04-2002
			BR 0114423 A	20-01-2004
			BR 0114443 A	01-07-2003
			CA 2424377 A1	11-04-2002
			CA 2424795 A1	11-04-2002
			CN 1473138 T	04-02-2004

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0228796	A		CZ 20030958 A3	17-09-2003
			CZ 20030959 A3	17-09-2003
			EP 1330420 A2	30-07-2003
			EP 1330421 A2	30-07-2003
			JP 2004527664 T	09-09-2004
			JP 2004510672 T	08-04-2004
			MX PA03002704 A	24-06-2003
			MX PA03002711 A	28-07-2003
			WO 0228795 A2	11-04-2002
			WO 0228796 A2	11-04-2002
			US 2004139891 A1	22-07-2004
			US 2004145078 A1	29-07-2004
			US 2002059886 A1	23-05-2002
			US 2002088584 A1	11-07-2002
GB 2148871	A	05-06-1985	AU 3443084 A	09-05-1985
			BE 900946 A1	15-02-1985
			BR 8405520 A	10-09-1985
			CA 1226589 A1	08-09-1987
			DE 3439813 A1	09-05-1985
			DK 519184 A	01-05-1985
			ES 8702219 A1	16-03-1987
			FI 844239 A	01-05-1985
			FR 2559760 A1	23-08-1985
			IT 1179807 B	16-09-1987
			JP 60122763 A	01-07-1985
			LU 85619 A1	04-06-1985
			NL 8403247 A	17-05-1985
			NO 844294 A	02-05-1985
			PH 20044 A	09-09-1986
			PT 79433 A ,B	01-11-1984
			SE 8405459 A	01-05-1985
			ZA 8408449 A	25-06-1986
EP 0173553	A	05-03-1986	AT 52214 T	15-05-1990
			BR 8504049 A	10-06-1986
			CA 1234585 A1	29-03-1988
			DE 3577290 D1	31-05-1990
			DK 382385 A ,B,	25-02-1986
			EP 0173553 A1	05-03-1986
			FI 853253 A ,B,	25-02-1986
			GB 2163421 A ,B	26-02-1986
			JP 1619627 C	30-09-1991
			JP 2043705 B	01-10-1990
			JP 61091080 A	09-05-1986
			MX 163147 B	30-08-1991
			NO 853330 A ,B,	25-02-1986
			US 4673659 A	16-06-1987
ZA 8506426 A	30-04-1986			
US 2003054123	A1	20-03-2003	BR 0208620 A	27-04-2004
			BR 0208621 A	27-04-2004
			CA 2442840 A1	17-10-2002
			CA 2443158 A1	17-10-2002
			CA 2443344 A1	17-10-2002
			CA 2443348 A1	17-10-2002
			CZ 20032808 A3	14-04-2004
			EP 1379738 A1	14-01-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2003054123 A1	EP	1377716 A1	07-01-2004	
	EP	1377718 A1	07-01-2004	
	EP	1377717 A1	07-01-2004	
	JP	2004524463 T	12-08-2004	
	JP	2004524464 T	12-08-2004	
	JP	2004524465 T	12-08-2004	
	JP	2004524466 T	12-08-2004	
	MX	PA03009029 A	12-02-2004	
	MX	PA03009030 A	12-02-2004	
	MX	PA03009031 A	12-02-2004	
	MX	PA03009032 A	12-02-2004	
	WO	02081839 A1	17-10-2002	
	WO	02081842 A1	17-10-2002	
	WO	02081840 A1	17-10-2002	
	WO	02081841 A1	17-10-2002	
	US	2003046891 A1	13-03-2003	
	US	2003056458 A1	27-03-2003	

EP 0347092 A	20-12-1989	AT	104202 T	15-04-1994
		AU	628346 B2	17-09-1992
		AU	3621089 A	14-12-1989
		DE	68914517 D1	19-05-1994
		DE	68914517 T2	28-07-1994
		DK	282289 A	12-12-1989
		EP	0347092 A2	20-12-1989
		GB	2220934 A ,B	24-01-1990
		IE	61867 B1	30-11-1994
		JP	2084303 A	26-03-1990
		JP	2977205 B2	15-11-1999
		US	5106557 A	21-04-1992
		US	5108679 A	28-04-1992